

**WHAT IS CLAIMED IS:**

1           1. A method of handling a plurality of  
2         instructions within a processor comprising:

3                 loading the plurality of instructions into a  
4         register;

5                 determining the number and size of the plurality of  
6         instructions; and

7                 decoding the plurality of instructions.

2. The method of Claim 1, further comprising  
decoding the plurality of instructions within a single clock  
cycle.

3. The method of Claim 1, further comprising  
decoding the plurality of instructions substantially  
simultaneously.

1           4. The method of Claim 1, further comprising  
2         decoding width bits to determine the size of the instructions.

1           5. The method of Claim 1, further comprising  
2         communicating the number and size of the plurality of  
3         instructions to the decoder.

1                 6. The method of Claim 1, further comprising  
2                 loading a first of the plurality of instructions having a  
3                 first size and a second of the plurality of instructions  
4                 having a second size.

1                 7. The method of Claim 6, further comprising  
2                 loading a first of the plurality of instructions having a  
3                 first size, and loading a second and a third of the plurality  
4                 of instructions having a second size, wherein the first size  
5                 is 32-bits and the second size is 16-bits.

1                 8. The method of Claim 1, handling the plurality  
2                 of instructions within a digital signal processor.

1                 9. A method of decoding a plurality of  
2                 instructions within a processor comprising:

1                 determining the size of the plurality of  
2                 instructions;

1                 presenting the plurality of instructions from an  
2                 instruction register to a decoder; and

1                 decoding each of the plurality of instructions  
2                 within a single clock cycle.

1           10. The method of Claim 7, further comprising  
2         simultaneously presenting each of the plurality of  
3         instructions to the decoder.

1           11. The method of Claim 7, further comprising pre-  
2         decoding the plurality of instructions to determine the width  
3         of the plurality of instructions.

1           12. The method of Claim 7, further comprising  
2         loading a next plurality of instructions into the single  
3         instruction register.

1           13. The method of Claim 9, further comprising  
2         decoding a plurality of instructions in a digital signal  
3         processor.

4           14. A processor comprising:

5           an instruction register capable of holding a  
6         plurality of instructions;

7           a pre-decoder which determines the size and number  
8         of the plurality of instructions; and

9           a decoder which substantially simultaneously  
0         receives the plurality of instructions from the instruction  
1         register, wherein the decoder decodes each of the plurality of  
2         instructions within a single clock cycle.

1           15. The processor of Claim 14, wherein the pre-  
2       decoder determines width bits.

1           16. The processor of Claim 15, wherein the pre-  
2       decoder receives information from each instruction source.

1           17. The processor of Claim 14, wherein the pre-  
2       decoder communicates the number and size of the plurality of  
3       instructions to the decoder.

1           18. The processor of Claim 14, wherein the  
processor is a digital signal processor.

1           19. An apparatus, including instructions residing  
on a machine-readable storage medium, for use in a machine  
system to handle a plurality of instructions, the instructions  
causing the machine to:

7           determine the size of the plurality of instructions;  
6           present the plurality of instructions from an  
instruction register into a decoder; and  
8           decode each of the plurality of instructions within  
9       a single clock cycle.

1           20. The apparatus of Claim 19, wherein each of the  
2       plurality of instructions is simultaneously presented to the  
3       decoder.

1           21. The apparatus of Claim 19, wherein the size of  
2         the plurality of instructions is determined from width bits.

1           22. The apparatus of Claim 19, wherein a next  
2         plurality of instructions is loaded into the single  
3         instruction register.

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